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| EXAMINER | |
|---|---|
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| 2616 | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

RD

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/812,419 | HONDA ET AL. | |
| | Examiner | Art Unit | |
| | CHUONG T. HO | 2616 | |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 2000-300620.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

1. The amendment filed 10/27/05 have been entered and made of record.

2. Applicant's arguments with respect to claims 1-11have been considered but are moot in view of the new ground(s) of rejection.

3. Claims 1-11 are pending.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 5, 8, 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takatori et al. (U.S.Patent No. 5,550,805) in view of Taniguchi et al. (U.S.Patent No. 2002/0009091).

In the claim 1, Takatori et al. discloses, see col. 4, lines 30-45, table 1 (bits 1-4, switching request name "Lockout protection or signal fail [protection]", abbreviation "LP-P or SF-P"), see col. 6, lines 15-20, To represent the contents of M1 "K1" and M2 "K2", M1 "K1" = (switching priority)/(destination node number); M2 "K2" = (own node number)/(short or long)/((status); comprising:

- Having a first node (see figure 4, col. 20-21, node E) receive as input an LP-S (lockout of protection (span)) command (see col. 4, lines 30-45, table 1, col. 6, lines 15-20) and having a second node (see figure 4, col. 4, line 5-9, lines 20-21)

adjacent to the first node (see figure 4, node E) receive the switch request from the first node via the optical fibers;

- Having the second node (see figure 4, node B) send a ring switch request (see col. 6, lines 35-41, "SF-R") to other nodes when the second node (see figure 4, col. 6, lines 35-41, node B) detects a failure in the line over which it receives a signal (see col. 6, lines 35-41, the message along the short path) from the first node (see figure 4, col. 6, lines 35-41, node E) under the above state;
- The transfer of a switch request is achieved by using K (bytes) (2 bytes) (see col. 6, lines 14-15, the content of the message is actually represented by a binary bits) on a protection channel and the ring network including, at least, a means for relieving failures occurring at opposing adjacent nodes (see figure 4, col. 6, lines 56-59, nodes A, B, D, E, F, I) when LP-S and SF-P are set as the same APS bytes).

However, Takatori is silent to disclosing for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes.

Taniguchi discloses for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes (see figure 32) (see figure 31D, page 2, [0050], in this bi-directional line switched ring (BLSR) type, shown in FIG.31D, if a failure occurs between the nodes (A) and (B), it is repaired by the automatic protection switch (APS) protocol) (see page 2, [0051], assume that a failure occurs between the nodes (A) and (B). In this case, the node (A) detecting an

alarm becomes the switching node and transmit a request indicating the transmission line failure (SF-RING: Signal Failure Ring) to both of the short path and long path with respect to the opposing node (B). The nodes (D) and (C) receiving the request via the long path identify the destination (B) of the request and when recognizing that they are not the destination enter into a "full pass through" state and allow the K1 and K2 bytes and protection line channels to pass there through) (see page 3, the K1 bytes in the section overhead SOH is comprised by a request of first of fourth bits and an opposing office ID of fifth to eighth bits (ID number of the destination node of K1 byte), while the K2 byte is comprised by a home office ID (ID number of the request originating node ) of the first to fourth bits, a fifth bit indicating whether the request is short path request ("0") or a long path request ("1") and a status of the sixth ro eighth bits).

Both Takotori and Taniguchi disclose the K1 and K2 (switching request). Taniguchi recognizes for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tokotori with the teaching of Taniguchi to provide controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes in order to increase of the speed of the squelch processing.

5. In the claim 2, Takatori et al. discloses, see col. 4, lines 30-45, table 1 (bits 1-4, switching request name "Lockout protection or signal fail [protection]", abbreviation "LP-P or SF-P"), see col. 6, lines 15-20, To represent the contents of M1 "K1" and M2 "K2",

M1 "K1" = (switching priority)/(destination node number); M2 "K2" = (own node number)/(short or long)/((status); comprising:

Having a first node (see figure 4, col.6, lines 20-21, node E) detect a failure of a receiving protection channel from an adjacent second node (see figure 4, col. 6, lines 20-21) and the second node receiving a switch request from the first node via the optical fibers (see figure 4, col. 4, lines 5-9, col. 6, lines 20-21) ;

Having the second node (see figure 4, node B) send a ring switch request (see col. 6, lines 35-41, "SF-R") to other nodes when the second node (see figure 4, col. 6, lines 35-41, node B) detects a failure in the line over which it receives a signal (see col. 6, lines 35-41, the message along the short path) from the first node (see figure 4, col. 6, lines 35-41, node E) under the above state;

The transfer of a switch request is achieved by using K (bytes) (2 bytes) (see col. 6, lines 14-15, the content of the message is actually represented by a binary bits) on a protection channel and the ring network including, at least, a means for relieving failures occurring at opposing adjacent nodes (see figure 4, col. 6, lines 56-59, nodes A, B, D, E, F, I) when LP-S and SF-P are set as the same APS bytes).

However, Takatori is silent to disclosing for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes.

Taniguchi discloses for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes (see figure 32) (see figure 31D, page 2, [0050], in this bi-directional line switched ring (BLSR) type,

shown in FIG.31D, if a failure occurs between the nodes (A) and (B), it is repaired by the automatic protection switch (APS) protocol) (see page 2, [0051], assume that a failure occurs between the nodes (A) and (B). In this case, the node (A) detecting an alarm becomes the switching node and transmit a request indicating the transmission line failure (SF-RING: Signal Failure Ring) to both of the short path and long path with respect to the opposing node (B). The nodes (D) and (C) receiving the request via the long path identify the destination (B) of the request and when recognizing that they are not the destination enter into a "full pass through" state and allow the K1 and K2 bytes and protection line channels to pass there through) (see page 3, the K1 bytes in the section overhead SOH is comprised by a request of first of fourth bits and an opposing office ID of fifth to eighth bits (ID number of the destination node of K1 byte), while the K2 byte is comprised by a home office ID (ID number of the request originating node ) of the first to fourth bits, a fifth bit indicating whether the request is short path request ("0") or a long path request ("1") and a status of the sixth ro eighth bits).

Both Takotori and Taniguchi disclose the K1 and K2 (switching request). Taniguchi recognizes for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tokotori with the teaching of Taniguchi to provide controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes in order to increase of the speed of the squelch processing.

6. In the claim 5, Takatori et al. discloses, see col. 4, lines 30-45, table 1 (bits 1-4, switching request name "Lockout protection or signal fail [protection]", abbreviation "LP-P or SF-P"), see col. 6, lines 15-20, To represent the contents of M1 "K1" and M2 "K2", M1 "K1" = (switching priority)/(destination node number); M2 "K2" = (own node number)/(short or long)/((status); comprising:

- The transfer of a switch request is achieved by using K (bytes) (2 bytes) (see col. 6, lines 14-15, the content of the message is actually represented by a binary bits) on a protection channel and the ring network including, at least, a means for relieving failures occurring at opposing adjacent nodes (see figure 4, col. 6, lines 56-59, nodes A, B, D, E, F, I) when LP-S and SF-P are set as the same APS bytes).

However, Takatori is silent to disclosing for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes.

Taniguchi discloses for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes (see figure 32) (see figure 31D, page 2, [0050], in this bi-directional line switched ring (BLSR) type, shown in FIG.31D, if a failure occurs between the nodes (A) and (B), it is repaired by the automatic protection switch (APS) protocol) (see page 2, [0051], assume that a failure occurs between the nodes (A) and (B). In this case, the node (A) detecting an alarm becomes the switching node and transmit a request indicating the transmission line failure (SF-RING: Signal Failure Ring) to both of the short path and long path with

respect to the opposing node (B). The nodes (D) and (C) receiving the request via the long path identify the destination (B) of the request and when recognizing that they are not the destination enter into a "full pass through" state and allow the K1 and K2 bytes and protection line channels to pass there through) (see page 3, the K1 bytes in the section overhead SOH is comprised by a request of first of fourth bits and an opposing office ID of fifth to eighth bits (ID number of the destination node of K1 byte), while the K2 byte is comprised by a home office ID (ID number of the request originating node ) of the first to fourth bits, a fifth bit indicating whether the request is short path request ("0") or a long path request ("1") and a status of the sixth ro eighth bits);

Having relay nodes other than two adjacent nodes (see figure 32, node A, node B) connected to two ends of a span to be switched enter a K byte pass- through state (see page [0051]) allowing only the K bytes to pass therethrough due to a span switch (see page 2, [0051], signal failing ring) direct from one of said two adjacent nodes to the other, and having them maintain the K byte pass-through state when they receive a ring switch request directed from one of said two adjacent nodes to the other under the above entered K byte pass-through state (see page 2, [0051]).

Both Takotori and Taniguchi disclose the K1 and K2 (switching request). Taniguchi recognizes for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tokotori with the teaching of Taniguchi to provide controlling switching in

a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes in order to increase of the speed of the squelch processing.

7. In the claim 8, Takatori et al. discloses, see col. 4, lines 30-45, table 1 (bits 1-4, switching request name "Lockout protection or signal fail [protection]", abbreviation "LP-P or SF-P"), see col. 6, lines 15-20, To represent the contents of M1 "K1" and M2 "K2", M1 "K1" = (switching priority)/(destination node number); M2 "K2" = (own node number)/(short or long)/((status); comprising:

- Having a first node (see figure 4, col. 20-21, node E) receive as input an LP-S (lockout of protection (span)) command (see col. 4, lines 30-45, table 1, col. 6, lines 15-20) and having a second node (see figure 4, col. 4, line 5-9, lines 20-21) adjacent to the first node (see figure 4, node E) receive the switch request from the first node via the optical fibers;
- Having the second node (see figure 4, node B) send a ring switch request (see col. 6, lines 35-41, "SF-R") to other nodes when the second node (see figure 4, col. 6, lines 35-41, node B) detects a failure in the line over which it receives a signal (see col. 6, lines 35-41, the message along the short path) from the first node (see figure 4, col. 6, lines 35-41, node E) under the above state;
- The transfer of a switch request is achieved by using K (bytes) (2 bytes) (see col. 6, lines 14-15, the content of the message is actually represented by a binary bits) on a protection channel and the ring network including, at least, a means for relieving failures occurring at opposing adjacent nodes (see figure 4, col. 6, lines

56-59, nodes A, B, D, E, F, I) when LP-S and SF-P are set as the same APS bytes).

However, Takatori is silent to disclosing for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes.

Taniguchi discloses for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes (see figure 32) (see figure 31D, page 2, [0050], in this bi-directional line switched ring (BLSR) type, shown in FIG.31D, if a failure occurs between the nodes (A) and (B), it is repaired by the automatic protection switch (APS) protocol) (see page 2, [0051], assume that a failure occurs between the nodes (A) and (B). In this case, the node (A) detecting an alarm becomes the switching node and transmit a request indicating the transmission line failure (SF-RING: Signal Failure Ring) to both of the short path and long path with respect to the opposing node (B). The nodes (D) and (C) receiving the request via the long path identify the destination (B) of the request and when recognizing that they are not the destination enter into a "full pass through" state and allow the K1 and K2 bytes and protection line channels to pass there through) (see page 3, the K1 bytes in the section overhead SOH is comprised by a request of first of fourth bits and an opposing office ID of fifth to eighth bits (ID number of the destination node of K1 byte), while the K2 byte is comprised by a home office ID (ID number of the request originating node ) of the first to fourth bits, a fifth bit indicating whether the request is short path request ("0") or a long path request ("1") and a status of the sixth ro eighth bits).

Both Takotori and Taniguchi disclose the K1 and K2 (switching request). Taniguchi recognizes for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tokotori with the teaching of Taniguchi to provide controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes in order to increase of the speed of the squelch processing.

8. In the claim 9, Takatori et al. discloses, see col. 4, lines 30-45, table 1 (bits 1-4, switching request name "Lockout protection or signal fail [protection]", abbreviation "LP-P or SF-P"), see col. 6, lines 15-20, To represent the contents of M1 "K1" and M2 "K2", M1 "K1" = (switching priority)/(destination node number); M2 "K2" = (own node number)/(short or long)/((status); comprising:

- Having a first node (see figure 4, col. 20-21, node E) receive as input an LP-S (lockout of protection (span)) command (see col. 4, lines 30-45, table 1, col. 6, lines 15-20) and having a second node (see figure 4, col. 4, line 5-9, lines 20-21) adjacent to the first node (see figure 4, node E) receive the switch request from the first node via the optical fibers;
- Having the second node (see figure 4, node B) send a ring switch request (see col. 6, lines 35-41, "SF-R") to other nodes when the second node (see figure 4, col. 6, lines 35-41, node B) detects a failure in the line over which it receives a signal (see col. 6, lines 35-41, the message along the short path) from the first node (see figure 4, col. 6, lines 35-41, node E) under the above state;

- The transfer of a switch request is achieved by using K (bytes) (2 bytes) (see col. 6, lines 14-15, the content of the message is actually represented by a binary bits) on a protection channel and the ring network including, at least, a means for relieving failures occurring at opposing adjacent nodes (see figure 4, col. 6, lines 56-59, nodes A, B, D, E, F, I) when LP-S and SF-P are set as the same APS bytes).

However, Takatori is silent to disclosing for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes.

Taniguchi discloses for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes (see figure 32) (see figure 31D, page 2, [0050], in this bi-directional line switched ring (BLSR) type, shown in FIG.31D, if a failure occurs between the nodes (A) and (B), it is repaired by the automatic protection switch (APS) protocol) (see page 2, [0051], assume that a failure occurs between the nodes (A) and (B). In this case, the node (A) detecting an alarm becomes the switching node and transmit a request indicating the transmission line failure (SF-RING: Signal Failure Ring) to both of the short path and long path with respect to the opposing node (B). The nodes (D) and (C) receiving the request via the long path identify the destination (B) of the request and when recognizing that they are not the destination enter into a "full pass through" state and allow the K1 and K2 bytes and protection line channels to pass there through) (see page 3, the K1 bytes in the section overhead SOH is comprised by a request of first of fourth bits and an opposing

office ID of fifth to eighth bits (ID number of the destination node of K1 byte), while the K2 byte is comprised by a home office ID (ID number of the request originating node ) of the first to fourth bits, a fifth bit indicating whether the request is short path request ("0") or a long path request ("1") and a status of the sixth ro eighth bits).

Both Takotori and Taniguchi disclose the K1 and K2 (switching request). Taniguchi recognizes for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tokotori with the teaching of Taniguchi to provide controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes in order to increase of the speed of the squelch processing.

9. In the claim 10, In the claim 10, Takatori et al. discloses having a first node (node A) of the first node and a second node (node E) adjacent thereto across a span (see figure 14) to be switch receive a switch request (EXER-R) (exerciser (ring)) from the second node during the execution of a switch request SF-P (signal fail (protection)) (see col. 5, lines 15-17), and having first node transmit a switch request SF-R (signal fail (ring)) (SF-R, Bits 1-4, 1011, see table 1, col. 6, lines 20-60);

The transfer of a switch request is achieved by using K (bytes) (2 bytes) (see col. 6, lines 14-15, the content of the message is actually represented by a binary bits) on a protection channel and the ring network including, at least, a means for relieving failures occurring at opposing adjacent nodes (see figure 4, col. 6, lines 56-59, nodes A, B, D, E, F, I) when LP-S and SF-P are set as the same APS bytes).

However, Takatori is silent to disclosing for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes.

Taniguchi discloses for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes (see figure 32) (see figure 31D, page 2, [0050], in this bi-directional line switched ring (BLSR) type, shown in FIG.31D, if a failure occurs between the nodes (A) and (B), it is repaired by the automatic protection switch (APS) protocol) (see page 2, [0051], assume that a failure occurs between the nodes (A) and (B). In this case, the node (A) detecting an alarm becomes the switching node and transmit a request indicating the transmission line failure (SF-RING: Signal Failure Ring) to both of the short path and long path with respect to the opposing node (B). The nodes (D) and (C) receiving the request via the long path identify the destination (B) of the request and when recognizing that they are not the destination enter into a "full pass through" state and allow the K1 and K2 bytes and protection line channels to pass there through) (see page 3, the K1 bytes in the section overhead SOH is comprised by a request of first of fourth bits and an opposing office ID of fifth to eighth bits (ID number of the destination node of K1 byte), while the K2 byte is comprised by a home office ID (ID number of the request originating node ) of the first to fourth bits, a fifth bit indicating whether the request is short path request ("0") or a long path request ("1") and a status of the sixth ro eighth bits).

Both Takotori and Taniguchi disclose the K1 and K2 (switching request). Taniguchi recognizes for controlling switching in a bi-directional line-switched ring

network configured by a plurality of optical fibers and a plurality of nodes. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tokotori with the teaching of Taniguchi to provide controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes in order to increase of the speed of the squelch processing.

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system (Tokotori – Taniguchi) in view of Ellis et al. (U.S.Patent No. 6,256,292 B1).

In the claim 3, Takotori discloses a relay nodes, each being operable when of LP-S or SF-P (see col. 4, 30-45. col. 6, lines 18-19) is received from one direction and an SF-R (ring-switch) request is received from another direction when the LP-S and SF-P are set as the same APS byte, between said first node (see figure 4, node E) and said second node (see figure 4, node B) enter into a K byte pass-through state (see col. 4, lines 52-63) allowing only the K bytes to pass there through when receive a switch

request (see col. 4, lines 52-63, LP-S) having the highest priority level directed to said second node from said first node.

However, the combined system (Tokotori – Taniguchi) is silent to disclosing when a switch request having the highest priority level.

Ellis et al. discloses when the switch request having the highest priority (see col. 11, lines 20-45).

Both Tokotori, Taniguchi, and Ellis disclose K1 and K2 switching request. Ellis recognizes when a switch request having the highest priority level. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Tokotori – Taniguchi) with the teaching of Ellis to provide when a switch request having the highest priority level in order to carry efficiently ATM or mixed ATM/STM traffic.

12. In the claim 4, Takotori discloses a relay nodes, each being operable when of LP-S or SF-P (see col. 4, 30-45. col. 6, lines 18-19) is received from one direction and an SF-R (ring-switch) request is received from another direction when the LP-S and SF-P are set as the same APS byte, between said first node (see figure 4, node E) and said second node (see figure 4, node B) enter into a K byte pass-through state (see col. 4, lines 52-63) allowing only the K bytes to pass there through when receive a switch request (see col. 4, lines 52-63, LP-S) having the highest priority level directed to said second node from said first node.

However, the combined system (Tokotori – Taniguchi) is silent to disclosing when a switch request having the highest priority level.

Ellis et al. discloses when the switch request having the highest priority (see col. 11, lines 20-45).

Both Tokotori, Taniguchi, and Ellis disclose K1 and K2 switching request. Ellis recognizes when a switch request having the highest priority level. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined system (Tokotori – Taniguchi) with the teaching of Ellis to provide when a switch request having the highest priority level in order to carry efficiently ATM or mixed ATM/STM traffic.

### *Claim Rejections - 35 USC § 103*

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 6, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takatori et al. (U.S.Patent No. 5,550,805) in view of Ellis et al. (U.S.Patent No. 6,256,292 B1).

In the claim 6, Takatori et al. discloses, see col. 4, lines 30-45, table 1 (bits 1-4, switching request name "Lockout protection or signal fail [protection]", abbreviation "LP-P or SF-P"), see col. 6, lines 15-20, To represent the contents of M1 "K1" and M2 "K2",

M1 “K1” = (switching priority)/(destination node number); M2 “K2” = (own node number)/(short or long)/((status); comprising:

- The transfer of a switch request is achieved by using K (bytes) (2 bytes) (see col. 6, lines 14-15, the content of the message is actually represented by a binary bits) on a protection channel and the ring network including, at least, a means for relieving failures occurring at opposing adjacent nodes (see figure 4, col. 6, lines 56-59, nodes A, B, D, E, F, I) when LP-S and SF-P are set as the same APS bytes).

However, Takatori is silent to disclosing for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes.

Ellis et al. discloses controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes (see figures 4A, 4B, col. 4, lines 57-67);

Having a first node receiving a ring switch request from a second , not execute the related ring switch, and maintain an idle state when the first node has received an LP-S (lockout of protection (span)) (see figure 7, col. 11, lines 40-45, lockout of protection is assigned highest priority) command or SF-P (signal fail protection) command before that (see col. 11, lines 20-45).

Bothe Takatori, and Ellis disclose K1 and K2 switching request. Ellis recognizes controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes. Thus, it would have been obvious to

one of ordinary skill in the art at the time of the invention to modify the system of Takatori with the teaching of Ellis to provide controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes in order to carry efficiently ATM or mixed ATM/STM traffic.

15. In the claim 7, Takatori et al. discloses, see col. 4, lines 30-45, table 1 (bits 1-4, switching request name "Lockout protection or signal fail [protection]", abbreviation "LP-P or SF-P"), see col. 6, lines 15-20, To represent the contents of M1 "K1" and M2 "K2", M1 "K1" = (switching priority)/(destination node number); M2 "K2" = (own node number)/(short or long)/((status); comprising:

- The transfer of a switch request is achieved by using K (bytes) (2 bytes) (see col. 6, lines 14-15, the content of the message is actually represented by a binary bits) on a protection channel and the ring network including, at least, a means for relieving failures occurring at opposing adjacent nodes (see figure 4, col. 6, lines 56-59, nodes A, B, D, E, F, I) when LP-S and SF-P are set as the same APS bytes).

However, Takatori is silent to disclosing for controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes.

Ellis et al. discloses controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes (see figures 4A, 4B, col. 4, lines 57-67);

Having relay nodes other than two adjacent nodes connected to two ends of a span to be switched enter a full pass-through state due to a ring switch request transmitted from one node of said two adjacent nodes to the other node (see col. 10, lines 55-60) and, when they receive a span switch request directed to the other node from said one node under the above entered full pass-through state, and having them compare priority levels of said received ring switch request and said span switch request (see col. 11, lines 20-45) and enter into the K byte pass through state allowing only the K bytes to pass therethrough where the span switch request has a highest priority level and a status code according to the ring switch request is not a ring bridge or ring switch (see col. 11, lines 43-45, see table 1, LP-S, SF-P, Lockout of protection is assigned highest priority)

Both Takatori, and Ellis disclose K1 and K2 switching request. Ellis recognizes controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Takatori with the teaching of Ellis to provide controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes in order to carry efficiently ATM or mixed ATM/STM traffic.

Bothe Takatori, and Ellis disclose K1 and K2 switching request. Ellis recognizes controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of

Takatori with the teaching of Ellis to provide controlling switching in a bi-directional line-switched ring network configured by a plurality of optical fibers and a plurality of nodes in order to carry efficiently ATM or mixed ATM/STM traffic.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takatori (U.S.Patent No. 5,550,805) in view of Takeguchi (U.S.Patent No. 6,735,171 B2).

In the claim 11, Takatori et al. discloses a first node (node B) receiving a ring switch request from the second node (node E) among two adjacent nodes (B, E) nodes connected to two ends of a span to be switched only transmit a ring switch request corresponding to that ring switch request (see col. 6, lines 15-60, table 1, col. 4, lines 30-47, figure 8); comprising:

- The transfer of a switch request is achieved by using K (bytes) (2 bytes) (see col. 6, lines 14-15, the content of the message is actually represented by a binary bits) on a protection channel and the ring network including, at least, a means for relieving failures occurring at opposing adjacent nodes (see figure 4, col. 6, lines

56-59, nodes A, B, D, E, F, I) when LP-S and SF-P are set as the same APS bytes).

However, Takatori et al. is silent to disclosing differentiating between a switch request LP-S (lockout of protection (span)) and a switch request SF-P (signal fail (protection)) using unused bit regions in K bytes when selectively transmitting at least LP-S and SF-P from a node connected to a span to be switched by utilizing the K bytes.

Takeguchi discloses differentiating between a switch request LP-S (lockout of protection (span)) and a switch request SF-P (signal fail (protection)) using unused bit regions in K bytes when selectively transmitting at least LP-S and SF-P from a node connected to a span to be switched by utilizing the K bytes (see col. 12, lines 51-67)

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Takatori with the teaching of Takeguchi to differentiate between a switch request LP-S (lockout of protection (span)) and a switch request SF-P (signal fail (protection)) using unused bit regions in K bytes when selectively transmitting at least LP-S and SF-P from a node connected to a span to be switched by utilizing the K bytes that in order to restore failure quickly in mesh network.

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 6269452, 6122250, 6456587, 6349092, 6820210, 6430700, 6615362.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG T. HO whose telephone number is (571) 272-3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

06/10/06